

such that during operation both the radial force induced on the sealing member by fluid flowing axially into and circumferentially over the radially inner surface and axial force induced on the sealing member because of a pressure difference across the sealing member is resisted by the resilient means. Thus, in claim 1, both radial and axial forces acting on the sealing means are resisted by the resilient means. Such is not the case in Macks.

In Macks, in Fig. 9, which is identified in the Office Action, the alleged resilient means 64 is, in fact, a plurality of tension members 64 disposed around the ring 60 and affixed between the housing 12 and the ring 60 (col. 6, lines 58-60). The tension members 64 have the purpose of restraining the ring 60 against movement which would be caused by the pressure differential across the ring, that is, they prevent movement (of the ring 60) axially of the shaft 14 but do not restrain the ring 60 against movement in the radial direction (col. 6, lines 60-65). The diaphragm 62, a totally separate element, is joined at the central position on the ring 60 to balance the forces tending to cause misalignment of the ring 60 with the shaft 14, that is the forces in the radial direction (col. 6, lines 55-57).

Logically, members 64, which are described as wire, chains, or similar devices, are obviously not capable of resisting radial movement. Thus, Macks does not disclose a resilient means that during operation resists both the radial force and the axial force as found in Applicant's claim 1. Further, the use of two separate elements to resist the two substantially transverse forces does not suggest the claimed invention. Macks further does not anticipate or suggest the subject matter of the remaining rejected claims, which depend from claim 1, for all the reasons discussed above with respect to claim 1 and for the additional features recited therein. Therefore, it is respectfully requested that the rejection be withdrawn.

In paragraph 3, on page 2 of the Office Action, claims 1, 2, 4-14, 16, 17, 19, 22 and 28-30 were rejected under 35 U.S.C. §102(b) as being anticipated by Gardner, U.S. Patent No. 5,632,493. The rejection is respectfully traversed.

Claim 1 is addressed above. Gardner discloses fingers 160 that, along with first and second sheet members 110, 120, form a sealing device. The fingers 160 and first and second sheet members 110, 120 are laid over one another over the majority of their length (Fig. 3). At the free end of the fingers 160 and first and second sheet members 110, 120, the tip ends of the first and second sheet members 110, 120 are bent upwardly so that they contact a second inner wall 90 of a second wall 60, which partly defines cavity 70. The end of the fingers 160 extend onwardly and substantially parallel to the shaft 20.

The fingers 160 are continuous with a flexible portion 170 and a more rigid tip portion 180. It is the tip portion 180 that is separated by a distance h from the shaft 20. The tip portions 180 ride above the surface of the shaft 20 in both rotating and non-rotating conditions (col. 4, line 66 - col. 5, line 4). Because the fingers 160, at their attached end, are rigidly attached to first wall 50 they do not truly resist any actual axial forces. The members 100 have a movable free end portion, in the radial direction, that forms a sealing engagement with the second wall inner surface 90 thereby enclosing the cavity 70 (col. 4, lines 21-24).

The movement of the free ends of both the members 100 and the fingers 160 result when the members 100 flex toward and away from the shaft 20 (radially) as a result of the movement of the fingers 160 underlying the members 100 (col. 5, lines 38-45). As to the fingers 160, they comprise the sealing tip portion 180 and the bridge portion 170, which is resilient. Thus, the sealing member and the resilient member of Gardner are one element. As the members 100 and the fingers 160 are not attached other than where both are connected to the first wall 50, there is no sealing member attached to a resilient member, the resilient member resisting both the radial force induced on the sealing member and the axial force induced on the sealing member by fluid flowing axially into and circumferentially over the radially inner surface.

In the case of the members 100, any force that is applied is substantially on the radially outer surface. As to the fingers 160, there is no axial force to resist and the fingers only flex in the radial direction. Further, there are no separate pieces in the fingers 160, just one continuous element.

Thus, Gardner teaches a seal member, finger 160, which is flexible, or resilient, and resists the radial movement itself. One skilled in the art would have no reason to contemplate attaching the sealing member of Gardner to a housing by another resilient member as the sealing member of Gardner is resilient and provides a solution to the problem of limiting the radial movement of the sealing member. As such, Gardner neither anticipates nor suggests the subject matter of claim 1. Further, for the reasons discussed, Gardner does not anticipate nor suggest the subject matter of claims 2, 4-14, 16, 17, 19, 22 and 28-30 for the reasons discussed with respect to claim 1 and for the additional features recited therein.

In paragraph 5, on page 3 of the Office Action, claims 20 and 21 were rejected under 35 U.S.C. §103(a) being unpatentable over Macks in view of Strub, U.S. Patent No. 3,756,673. The rejection is respectfully traversed.

Strub does not overcome the deficiencies of Macks with respect to claim 1 and therefore cannot possibly, in combination with Macks suggest, the subject matter of claims 20 and 21.

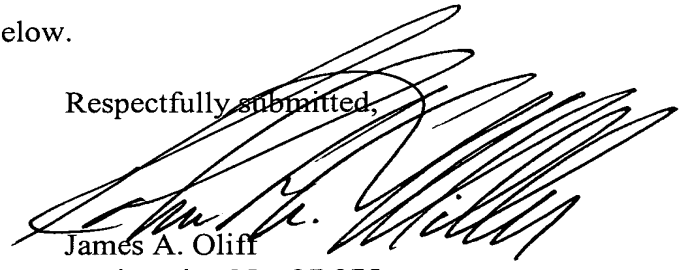
In paragraph 6, on page 3 of the Office Action, claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Macks, and in paragraph 7, on page 4 of the Office Action claim 3 was rejected under 35 U.S.C. §103(a) being unpatentable over Gardner. Both rejections are respectfully traversed.

As previously discussed, neither of the references anticipates nor suggests the subject matter of claim 1. Therefore they cannot anticipate or suggest, respectively, the subject matter of claims 25 or 3. It is therefore requested the rejections be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-30 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Robert A. Miller
Registration No. 32,771

JAO:RAM/eks

Date: March 24, 2006

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--